

## CERTIFICATE OF CONFORMANCE

Product: **Radnor 6013**  
Classification: **E6013**  
Specification: **AWS A5.1:2012, ASME SFA-5.1**  
Date: **June 22, 2018**

This is to certify that the product named above and supplied on the referenced order number is of the same classification, manufacturing process, and material requirements as the material which was used for the test that was concluded on the date shown, the results of which are shown below. All tests required by the specifications shown for classification were performed at that time and the material tested met all requirements. It was manufactured and supplied according to the Quality System Program of the Lincoln Electric Mexicana, México, which meets the requirements of ISO 9001, NCA3800, AWS A5.01, and other specification and requirements, as applicable. The Quality System Program has been approved by ASME and ABS.

Operating Settings	E6013 Requirements	RESULTS			
Electrode Size		5/32"	5/32"	3/16"	3/16"
Polarity		AC	DC+	AC	DC+
Plate Thickness, mm (in)		19 (3/4)	19 (3/4)	19 (3/4)	19 (3/4)
Current, A		145	140	165	160
Pass/Layers		18/9	16/8	16/8	18/9
Preheat Temperature, °C (°F)	(225 min.)	150 (300)	150 (300)	150 (300)	150 (300)
Interpass Temperature, °C (°F)	(225-350)	150 (300)	150 (300)	150 (300)	150 (300)
<b>Mechanical properties of weld deposits</b>					
Tensile Strength, MPa (ksi)	430 (60)	496 (72)	517 (75)	537 (78)	537(78)
Yield Strength, 0.2% Offset, MPa (ksi)	330 (48)	468 (68)	489 (71)	489 (71)	503 (73)
Elongation %	22 min	30	28	31	29
<b>Chemical composition of weld deposits (weight %)</b>					
C	0.20 max.	0.10	0.14	0.14	0.12
Mn	1.20 max.	0.34	0.38	0.39	0.45
Si	1.00 max.	0.18	0.23	0.22	0.30
P	N.S.	0.013	0.014	0.015	0.018
S	N.S.	0.016	0.017	0.016	0.013
Ni	0.30 max.	0.02	0.01	0.03	0.02
Cr	0.20 max.	0.03	0.03	0.03	0.03
Mo	0.30 max.	0.00	0.00	0.00	0.01
V	0.08 max.	0.01	0.01	0.01	0.01
Limits for Mn + Ni + Cr + Mo + V	N.S.	0.40	0.43	0.46	0.52

The electrode sizes required to be tested are 5/32 inch and 3/16 inch. The 3/32 and 1/8 inch sizes will also meet these requirements.  
Test assembly constructed of ASTM A36 steel.  
Fillet Weld Test (positions as required): Met requirements  
Radiographic Inspection: Grade 2 - Met requirements

**Osvaldo Sanchez Aranda**  
Quality Assurance

Date

June 22, 2018

**Roque Sanchez de Lucio**  
Quality Assurance Manager

Date

06/26/18